THE RELATIONSHIP BETWEEN THE LEVEL OF ASPIRATION AND PERFORMANCE IN SELECTED MOTOR TASKS

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CHAPTER I

INTRODUCTION AND STATEMENT OF PROBLEM

Is there any relationship between what a person thinks himself capable of doing and his actual performance? Will an increase in his level of aspiration increase his performance? The answers to these questions have implication for the teacher who is interested in better understanding the student in motor activity. Affirmative answers to such questions might do much to alleviate doubts that exist about the degree of effect or the control preconceived goals might have on the bodily actions. It is recognized that there are many factors which can be held responsible for the reaping or waste of the satisfactions involved in motor performance.

To date, the majority of the research in the area of level of aspiration has been related to intellectual accomplishment not motor skills. The psychologists have done most to enlighten us on this quotient of human aspiration and its effects. An array of studies having conflicting results have been made in this area. Each, however, does show some degree of relationship between these two variables, level of aspiration and performance. If there is a relationship between them in the area of intellectual behavior, is this also true in the area of motor skills?

To study the level of aspiration in motor tasks and remain objective is difficult with such a subjective quantity. This highly subjective measure, level of aspiration, is nebulous, intricate, and ever

changing because of the "person" variable. Of course, neither the level of aspiration nor the actual performance is of value to education unless accompanied by a deep desire to promote human values. Performance becomes a measure or record of ability, plus or minus inhibitions. It is these inhibitions or personality traits that seem to affect the individual's aspirations. Here the teacher has the opportunity to hold the controls, perhaps directly or indirectly, motivating the level of aspiration and/or performance. If the level of aspiration does affect performance, we, as teachers, can not be satisfied until we unlock the potential through a positive approach to teaching.

What is level of aspiration and its factors of ego-involvement? Level of aspiration is established by the individual with regard to his performance on a given task and is determined by many different factors.

If the person recognizes the task as actually difficult, he will tend to set his sights lower than for a task that is recognized as relatively easy. The person's appraisal of the task and its difficulty is closely related to his past experiences of success or failure with the task. These past performances serve to form a kind of "adaptation level" with respect to which the next probable level of performance can be estimated.

The extent to which the person feels himself involved in the task is significant. With high self-involvement the person is more sensitive to considerations of personal success and failure, and his level of aspiration will be altered accordingly. The element of ego-status tends to have a great influence in the setting of goals. The deeper the self-in-

volvement, the more likely the person is to set his level of aspiration consistently higher or consistently lower over a wide range of tasks.

Level of aspiration is generally influenced by the performance of the subject's cultural group or of other comparative groups. Again comparing the status of the person in relation to others has bearing on the person's aspirations and, perhaps, performance. It has been discovered that the level of aspiration of an individual on a particular task will be raised or lowered when he is informed of the intentions of the other performers.

The dimensions of an individual's personality and the influences of group status are probably the most inveterate factors in setting the level of aspiration of that individual.

With these factors in mind, this study was designed in an attempt to find, within the framework of selected motor tasks, whether a relationship which indicated definite direction of its variables, level of aspiration and performance, existed.

Statement of Problem

The purpose of this study was to investigate the relationship between the level of aspiration and the performance in selected motor tasks. Within this relationship the study attempted to find a direction between the components, as well as, the degree of any effect one variable might have on the other. The answer to the following questions were sought: Does the level of aspiration affect the next performance? Does the success or failure of the previous performance govern the next prediction?

As a basic step, the two variables, level of aspiration and performance, needed defining. Amid the complex field of psychology were several explanations, "the level of future performance in a familiar task which an individual knowing his past performance in the task explicitly undertakes to reach." (25), "it refers to a quantitative indication which an individual makes concerning his future performance in that activity." (30) For the purpose of this study the following definition was used: Level of Aspiration is the goal that a person intends to achieve in the next performance. The uniting and modification of several definitions was done to adjust to the pattern of this study. Performance was the execution of the task. Task in this situation was the measure of performance in a selected motor skill. The tasks selected for measuring motor performance involved the skills of accuracy in ball handling, strength, and reaction time.

CHAPTER II

REVIEW OF LITERATURE

The names of Lewin, Dembo, and Hoppe are closely related with the first explorations of the ego-involved expression of aspiration. Level of aspiration or "Anspruchsniveau," as Dembo introduced the term into experimental literature, has been investigated as a personality behavior and as a function of achievement. The majority of studies have been concentrated on the former aspect of aspiration with primary interest in the individual differences in the patterned behavior of goal-setting. Previous research has been concerned with the analysis of factors which influence the operation of needs in the determinants of the level of aspiration. Very little attention has been given to aspiration as a cause for the degree of performance. Bayton's (18) study, which will be discussed in detail later, approached level of aspiration as a variable in a cause-effect inter-relationship between level of aspiration, the level of the next performance, and past performance.

Level of aspiration is synonymous in many studies with prediction, expectancy, goal value, manner. Hoppe, as cited by Gardner, used the level of aspiration to express the manner in which one approached a task.

> The subject always undertakes the task with certain demands (Auspruchen) which can change in the course of activity. The totality of these constantly shifting, now definite, now precise, expectations, goal settings or demands in connection with ones own future performance, we shall term level of aspiration of the subject. (30:61)

Gardner (30) in his "Use of the Term Level of Aspiration" concluded that it referred to the quantitative indication which an individual makes con-

cerning his future performance. Rotter (49) defined expectancy in his study of personality factors involved in the level of aspiration as "subjective probability held by the individual." He found that expectancies were viewed as being determined by experience in particular set values or in related situations. The amount of experience had bearing on the expectancy level as did the goal value. Goal values appeared to exert their strongest influence upon expectancies in relatively novel situations. His measuring instrument was an aspiration board which he constructed using an oblong wooden box frame with a numbered target on the bottom and a steel ball bearing as the object aimed at the target. The steel ball was sent along a track by a cue and stopped on the target at a number. The established goal score was ten. Previous to each trial the subject gave an estimate of how close to ten he would come.

In another study of the analysis of the level of aspiration, Ausubel (17) pointed out the importance of "real-life" measures as compared to laboratory measures. He used five academic goal discrepancy measures relating to the student's actual high school experience as compared to five laboratory goal discrepancy measures that included such tasks as the "rigged stylus maze" test and the "paper-pencil level of aspiration" test. The fact that there was no significant relation between the "real-life" measures and the laboratory measures was attributed to the great degree of ego-involvement in the "real-life" measures which tended to be more realistic expectancies.

Behavioral expectancies are not always governed by realistic factors. The functions of wishes, fears, doubts, and uncertainties

appear to color the predictions of goal setting. (11) Often expectancies are lowered in face of highly valued goals and raised when gambling with a successful meeting of expectancies.

According to Lewin (7) personality is the predominate cause for the modification of level of aspiration in regard to future performance. The setting of the prediction of performance remains an involved ego-status behavior directed by numerous unknown agents. Gardner indicated that a great amount of "editing" went on before a goal was announced. (31) The more deeply the ego is involved and the more highly the task is valued, the greater effect it has on the stated expectancies. The concern of Child and Whiting (21) with the retrospective quality of the aspiration responses in the success and failures of their subjects again pointed to the complexity of the ego-involvement in the setting of goals. Their study of fifty junior high school students also brought out the possibility of aspiration being a continuum measure taking into consideration the past history of the subject. The value of the achievement increases the expectancies. The competition involved in the ego-status of a subject with himself or with a group is a technique used to guide the setting of the level of aspiration.

The drive of personality as a determinant of goal setting appears in the Clark (19) paper where it was termed H. S., hope of success, or F. F., fear of failure. The method used in this study was a questionnaire preceding an examination. The subjects were asked their anticipated score on the examination in addition to their grade for the complete course.

de Cunbia Pereira (23) found two types of factors governing the setting of the level of aspiration, the situational and general cultural factors. As for the situational factor, she found that the order or presentation of the tasks weighted heavily on the success or failure of the task and that the standing within the social class because of success or failure strongly decided the level of aspiration.

> All in all in every level of aspiration situation the nature of the situational factors and the certain individual personality factors interact to determine the response. However little or nothing is known about the stability or nature of these personality factors. (48:472)

The many determinants of the complex concept of level of aspiration and its factors have been the concern of the majority of studies regarding this subject, although a few have dealt with the inter-relationship of level of aspiration and performance, and fewer yet have considered a possible direct relationship between the raising of the level of aspiration and increase in performance.

Tolman's (55) study of the principles of performance provided a better understanding of the relationship of level of aspiration and performance. He listed the variables of performance as discrimination, expectancies, drives, and incentive values. Tolman suggested that the variables are added or multiplied with one another to produce a behavior performance. It would appear that there are implications here for a possible cause-effect relationship between level of aspiration and performance. The direction of the cause and/or effect is disputed however. Bayton (18) cited in his study of the interrelation of these two variables that low correlations had been found in the study of Filter and

Kneeland regarding estimates of future-performance and performance.

Gould (35), in one of her studies, found little relationship between explicit goal strivings and the expressed level of aspiration. Her measuring was done through a battery of six unrelated tests: a verbal test, a symbol-digit substitution test, steadiness, target cancallation, and addition. In still another study Hilgard and Sait (38) found little effect between level of aspiration as a determinant to the next-performance using the tasks of card sorting and keeping the tip of a pointer on a revolving three-quarter inch brass target. She was interested in three discrepancies: the estimate of past-performance and actual-performance, the estimate of future-performance and actual-performance, and the estimate of future-performance and actual-future-performance.

Gardner (32:65) states:

> Might not an individual in a task such as dart throwing entertain at one and the same time a wild hope that he will make a perfect hit and a more prudent hope that he will at least hit the target, with perhaps an addition self conscious hope that he will not appear too awkward in the eyes of the experimenter? In other words is there not considerable likelihood that an individual's wishes on a given trial are manifold, fluxuant, ephemeral, and differing qualitatively as well as quantitatively, with those aims which involve a specific score often giving away to aims which cannot possibly be described in terms of score values?

Considerable doubt can be cast that level of aspiration is a measure of the degree of self motivation.

Bayton's (18) study undertook to find if performance was related to the relative height of the preceding explicit level of aspiration. He attempted to find to what extent performance was dependent upon the stated level of aspiration.

Preston and Bayton (47) presented the aspects of level of aspiration as three possible steps:

Maximum level of aspiration - representing the ultimate.

Actual level of aspiration - will probably achieve on the next trial.

Minimum level of aspiration - certain he will not fall below this level.

Again we see the personality ego-factors playing a role. The need is to succeed and the desire is not to fail.

Bayton (18) also attempted to investigate the nature of the influence of needs in the determining of the level of aspiration and the events following the statement and expectation and finally performance for that particular aspiration. His hypothesis was in essence that in an ego-involved task the needs expressed in the actual level of aspiration would continue to exert their influences to produce an effect on the performance.

This hypothesis was tested using college women as subjects. The tasks consisted of the execution of two types of figure problems, one involving multiplication and the other number cancellation. The ego-involvement task, multiplication, showed more significant data results than did the non-ego-involvement task. Bayton found that the results were unreliable for individual trials but reliable for the aggregate of the three critical trials. There was a reliable tendency for those subjects with high actual level of aspiration to follow with better performance. These results supported the view that the influences which find expression in the level of aspiration continue to be operative upon

the achievement which follows the statement of the aspiration.

All of the previous studies have come from the field of Psychology. Only one published investigation of level of aspiration relating to physical education was found in the literature. In this experiment level of aspiration was concerned with an estimate of the amount of time a football player anticipated playing in intercollegiate games. Varsity players were asked on three consecutive days before a game how many minutes they would play the following Saturday and how many minutes in a game before the end of the season. The time played in preceding games affected the level of aspiration for the next game at a correlation significant at the 1% level of confidence. (53) These results would appear to point out the cause-effect direction of the previous performance to the next level of aspiration. Yacorzynski (56) might explain it as the degree of effort involved. His theory in experimenting with the level of aspiration was that the degree of effort was important and related inversely to the level of aspiration. Bayton (18) showed a reliable cause-effect direction between the level of aspiration and performance. Conflicting results have been found in the attempts to explain the level of aspiration and its relationship to previous and/or future performance. More research is needed in this area before questions can be answered with any degree of assurance.

In reviewing the literature concerning the testing procedures in previous studies on aspiration, performance, and related areas, it was found that none of the studies had used physical skills. However, the standards and criteria of these studies would appear to be applicable to

studies using physical skills as a measure of performance. Rotter (50) noted that in selecting a task it was important that these points be considered: the task should be novel to the subject so that he will not know how other people scored and so that he will not have built up attitudes toward his ability with respect to the specific task; it should be neither too easy nor too difficult; performance scores on the tasks for all should occupy a fairly narrow range about the middle; it is necessary to find a task interesting enough to guarantee sustained and uniform attention; performance scores should be variable; the learning factor should be negligible.

The phrasing of the question to the subjects in requesting his aspiration has received a considerable amount of discussion. Is "try" to do and "expect" to do the same? Irwin and Mintzer (44) found a higher discrepancy score when the question was phrased what will you "try" to score compared with "expect" to score. The term "expect" is more commonly used.

Most studies preferred discrepancy between the aspiration and performance as the measurable score. Hill (40), however, suggests an inventory score instead. His inventory consisted of sixteen multiple choice items in four areas: social, academic, professional, and economic. He attempted to measure aspiration in more than one area, not satisfied with the idea that a high positive goal-discrepancy score in one area necessarily followed that the subject would score high in another area. Cohen (22) used success and failure as his method of measurement. "Success" was the meeting or exceeding of the aspiration with the

performance. "Failure" was the falling short of the aspiration with the performance. He also considered percentages of negative and positive shifts in expectancies as a valid measure. The evaluation of goal tenacity is another approach. Finding a difference in the raising or lowering of aspiration after failure or success indicates the degree of tenacity (46). This approach should be a valuable technique for studying success or failure in physical education activities.

It would appear from the many approaches that have been used in previous studies that a researcher who wants to investigate the area of aspiration must first choose his framework, then accept or alter previous procedures and perhaps find new methods appropriate to his pattern.

CHAPTER III

PROCEDURE

The framework and procedure for this study required the cooperation of subjects to perform the tasks that had been selected as measures in finding a relationship between level of aspiration and performance. The subjects used were college women enrolled at The Woman's College of the University of North Carolina in Greensboro, North Carolina, during the academic year, 1959-60. Subjects were included in the study on the basis of a random selection of names from The School Directory in which each name had been given a number. Using a table of random numbers, forty-five names were chosen.

A letter requesting the receiver to participate in the study was sent to each of the forty-five students selected. The letter described the study briefly and explained the role of the subject. The maximum amount of time that would be required of each subject was indicated. Enclosed with the letter was a postal card which was to be returned to the writer with either a negative or positive reply. Twenty-six students answered positively. A copy of the letter and card are included in the Appendix.

Each subject who agreed to participate in the study was then contacted personally. At this time, the testing procedure was explained and an appointment, at her convenience, was scheduled.

Selection of Tasks

There are available any number of motor measures that evaluate the ability and performance of the subject. The number is, however, narrowed when the test must also be acceptable to the framework within which the association of the level of aspiration and the performance may be observed. Because the writer did not desire to measure the ability of her subjects, the testing measures were altered when necessary and then termed tasks.

The following criteria were considered in the selection of appropriate motor tasks. Reliability of the test was considered even though the test was not to measure its original purpose. The difficulty of the task was an important factor because of the great range in ability of the randomly selected subjects. The fatigue factor was also given consideration. The familiarity of the task and/or the unfamiliarity of the task was weighed so that the expectancies would not be too well established or that the experience would cause a tension that would distract from the subject's performance. It seemed essential, too, that the tasks provide for a possible range of scores. Administrative details such as the amount of space involved, the amount and kinds of equipment needed, and the assistance necessary to give the tasks were also weighed in making the final selection. To be sure of the best possible testing reactions and results, each subject was given a choice of two of the three tasks in each category. By giving a choice it was hoped less ego-stress would occur and more accurate estimates would be made by the subjects.

Within the categories of accuracy, kinethesis, strength and re-

action time, which were decided upon as possible areas, there were many tests that lent themselves to tasks that would show the relationship between level of aspiration and performance. The accuracy tasks chosen all involved ball handling; one was basketball shooting from the foul line, each trial consisting of ten throws; another, using a basketball, was a wall pass for time; and the third consisted of an overhand softball throw at a target on the wall twenty-four feet away.

The kinesthetic tasks included a standing broad jump with a fixed level of aspiration of exactly two feet. The subject jumped with eyes closed attempting to land exactly at the two-foot line. Another task was the arm level. Again the aspiration was fixed, this time at ninety degrees and each time the subject attempted with eyes closed to raise her arm to exactly ninety degrees from her side. The angle was measured with the flexometer. The third choice in this category was the balance stick which was modified to a balance on a one inch square block of wood. The subject predicted the length of time she could maintain her balance on the block with her eyes closed. This last task was dropped after the testing program began as it was too difficult and not enough people chose the task. Later the other two kinesthetic tasks were excluded as they were not consistent with the other tasks because of the fixed level of aspiration.

Within the combined strength and reaction time category was the penny cup task which consisted of a short run, a decision dictated by the administrator and followed by the subject who went to the color called and dropped a penny from her hand into the cup on the colored

piece of paper before returning to the starting line. The score was the time necessary to complete the task. The vertical pull, a measure of arm and shoulder strength, consisted of the grip dynamometer with the push-pull attachment hung from the ceiling and adjustable to the height of the subject. The subjects were required to predict the amount of each pull. The third choice in this area was the jump reach task. In this task scoring was facilitated by a paper chart of colored and numbered lines. Each subject attempted four marks on the chart with chalk.

All the tasks were set up with a rest time between tasks and in the more strenuous tasks, between trials within the task pattern. A designed practice period was given with each new task.

The tasks were chosen with these two principles in mind, that the task should be relatively novel so that expectancies were not pre-established and at the same time be such that the task was not too unfamiliar to arouse tensions or permit a lack of control. Each task was given a practice administration to assure that the student would have a concept upon which to base her expectations.

Administration of the Tasks

Level of aspiration studies have in common a specific basic procedure.

> A subject presented a task either before or after practice was asked to make a statement of how well he will do on the task. After failure of success in reaching his explicit set goal he is asked to make another estimate. This may be repeated several times. Through this procedure it is possible to study fairly objectively the effect of success or failure on the explicitly

set goals of an individual. (48:464)

In the administration of the tasks it was important that the subjects give an honest, frank, and best estimate of their aspirations. This was made clear to each subject and emphasized to her as she began the tasks. Each task was repeated four times so that one subject performing a task concluded with four predictions and four performance scores. A fifth prediction was asked for regarding the level of aspiration if the subject was to return and repeat the task next week.

The order of the tasks to be executed was considered important with respect to body fatigue, as well as efficient administration of the tasks. Also considered was the exact wording of the question requesting the level of aspiration. Irwin and Mintzer (44) found that it was important to ask the question correctly to avoid arousing the subject and as a control to the subject's personality.

The administration of the tasks was handled in the following manner and order:

Wall pass - after the directions were given and the trial passes made, the subject was asked, "How many times will you hit the target in fifteen seconds?" This prediction was then recorded and the task performed. The performance was then recorded and a second prediction was asked. The second execution of the task was completed and recorded. This routine was repeated twice more until the administrator had four predictions and four performances. Then the subject was asked, "If you were to come back next week and repeat this task, how many times in fifteen seconds would you hit the target?"

Foul shooting - the same routine was applied to this task, as was used for the wall pass. The subject was asked the question, "How many baskets will you make out of ten attempts?" A fifth prediction was also requested for an estimate of next week's performance.

Softball throw - the same procedure was used with this task and the question asked was, "How many times will you hit the target in ten attempts?" A fifth prediction was requested regarding next week's performance.

Jump reach - the same procedure was used with this task and the question asked was, "On which numbered strip will you mark with the chalk?" As before, a fifth prediction was requested for next week's performance.

Vertical pull - the same procedure was used with this task and the question was asked, "How many pounds will you pull?" A fifth prediction was also requested.

Penny cup - the same procedure was used with this task and the question was asked, "How many seconds will it take you to complete this task?" A fifth prediction was requested.

Standing broad jump - after two trial jumps the subject was asked to jump exactly two feet and after she landed to stand with eyes still closed. At this moment the administrator asked the subject, "Have you jumped exactly two feet?" "Where are you in relation to the line?" The answer to the last question was recorded with the level of aspiration of exactly two feet. This was, as before, repeated four times. A fifth prediction was requested and recorded regarding next week's performance.

Arm level - after the subject was shown where ninety degrees

was in relation to her arm raising, she returned to a position of the arm hanging at her side. The subject was asked to find exactly the same position with eyes closed and hold it at the reading of ninety degrees on the flexometer. The level reached was then recorded. This was repeated four times and then a fifth prediction was asked and recorded.

Treatment of Data

The purpose of this experiment was to study the relationship between level of aspiration and performance in selected motor tasks. Within the relationship an attempt was made to determine if there was any direction between the variables.

As a first step the mean and standard deviation for the level of aspiration and the performance of each trial in each task was calculated. Then the mean of the four performance trials and the fifth prediction, the level of aspiration for "next week," were ranked. The rank difference method of correlation was used to determine whether or not a relationship existed between these variables. In order to determine whether or not a relationship between the predicted performance and the actual performance existed the scores for each trial in the six tasks were plotted on separate scattergrams. The Pearson Product-Moment Correlation formula was employed as the statistical method. To test the null-hypothesis that: Modification in level of aspiration is not associated with the discrepancy between performance and level of aspiration in selected motor tasks the chi-square test was used. The scores from all six tasks were combined in this procedure. These data were first treated

in a 3x3 contingency table using positive, equal, and negative values of performance minus level of aspiration and the next level of aspiration minus previous level of aspiration. Because the cell count was less than five it was necessary to use the Yates Correction Formula. The data were regrouped by combining the "equal" values with the least "positive or negative" scores in both the rows and columns. The result was a 2x2 contingency table from which direction between level of aspiration and performance could be observed. A positive or a negative reading of direction could be made from the "ad-bc" values in the formula. From the 2x2 chi-square values chi was calculated giving an answer that could be read on the "t" table to find significance.

The chi-square technique was also used to find whether or not a significant association existed between the previous prediction to the next prediction and the previous performance to the next performance. Contingency tables for each task were tallied and tested for a relationship in this sequence of scores.

CHAPTER IV

ANALYSIS OF DATA

The purpose of this paper was to study a relationship between the two variables, level of aspiration and performance, in selected motor tasks. A cause-effect relationship was anticipated within the association appearing to give direction between the variables. From this purpose and design evolve these questions: Is there a relationship between level of aspiration and performance? Does level of aspiration affect performance? Does past-performance affect the level of aspiration?

In an attempt to answer these questions six motor tasks were selected and administered to twenty-six randomly selected college women enrolled at The Woman's College of the University of North Carolina.

The mean and standard deviation of the level of aspiration and of the performances were found for every trial in each of the six tasks. There was general increase in the mean scores from trial one through trial four for both variables in all of the tasks, with the highest scores falling in the third and fourth trials. Learning through repetition is possibly indicated from this increase. The spread of scores varied a great deal. In the standard deviation scores for level of aspiration the smallest deviation fell on the first trial in three tasks, softball throw, jump reach, and vertical pull. It fell on the second trial in the foul shooting and the wall pass task, and in the other task, penny cup, the least spread of scores came in the third trial. This inconsistency may be caused by the novelty or unfamiliarity of some of

these tasks. The fact that the majority of the subjects were reasonably inexperienced in motor activities may also have had a bearing on this difference. These data appear in Table I.

TABLE I

MEANS AND STANDARD DEVIATIONS OF LEVEL OF ASPIRATION AND PERFORMANCE ON EACH TRIAL IN EACH TASK

Task	N	Trial I X	Trial I S	Trial II X	Trial II S	Trial III X	Trial III S	Trial IV X	Trial IV S
Basketball Throw	14								
* LA		3.14	3.77	3.50	1.72	4.28	2.25	4.71	2.02
** P		1.71	2.41	3.07	2.69	3.85	2.03	3.92	1.83
Wall Pass	24								
LA		10.08	3.49	11.58	3.34	12.75	3.90	12.83	3.50
P		11.08	3.24	11.95	3.11	12.70	3.31	12.41	3.48
Softball Throw	14								
LA		5.50	1.24	6.00	1.73	6.71	1.75	7.50	1.60
P		6.14	1.51	5.92	2.25	6.78	1.52	7.14	1.46
Vertical Pull (lbs.)	18								
LA		66.11	11.41	67.16	11.44	68.55	12.10	69.44	13.29
P		66.38	11.35	63.38	13.32	69.38	12.50	69.83	10.63
Jump Reach	22								
LA		22.81	3.33	23.27	3.53	23.63	4.95	23.73	3.53
P		22.86	3.52	23.18	3.34	23.27	4.43	23.40	3.41
Penny Cup (secs.)	12								
LA		7.21	.405	7.0	.447	6.87	.348	6.96	.877
P		7.16	.726	7.12	.711	7.75	.989	7.12	.673

* LA = Level of Aspiration
** P = Performance

A significant relationship was found between prediction and performance of that trial in all six tasks at the 1% level of confidence. The Pearson Product-Moment Coefficient of correlation was used to pair the individual scores of level of aspiration and performance of each trial in the tasks. This correlation indicated that the stated level of aspiration or prediction of performance was closely related to the performance of that prediction. In this procedure no account is taken for the probable influence of the past performance or for the modification of the predictions and performances. There was no continuance indicated. Table II shows the values for these correlations.

In Table III are presented the correlation coefficients for the relationship between the mean of a subject's performance and the prediction of future-performance, "next week's" level of aspiration. The raw data were treated by using the Rank Difference Method of Correlation. In five tasks the Rho scores showed a significant relationship at the 1% level of confidence. The relationship for the sixth score, the softball task, was not statistically significant. It is possible that the softball accuracy throw was less familiar and/or more difficult for the randomly selected subjects. The degree of accuracy involved might also be considered as a possible cause for this score being inconsistent with the other Rho values. It appeared to the test administrator that the majority of the subjects attempted to estimate their fifth prediction, "next week's" prediction, by averaging their past four performances. If true, this might be a contributing factor to the significant correlation scores on the five tasks. Some of the cases set the next week's aspiration

TABLE II

PEARSON PRODUCT-MOMENT COEFFICIENTS OF CORRELATION BETWEEN LEVEL OF ASPIRATION ON EACH TRIAL IN EACH TASK AND THE PERFORMANCE OF THAT LEVEL OF ASPIRATION

Task	N Trials	Correlation	Level of Confidence
Basketball Throw	56	.5674	.01
Wall Pass	96	.8456	.01
Softball Throw	56	.5796	.01
Vertical Pull	72	.9038	.01
Jump Reach	88	.9544	.01
Penny Cup	48	.4704	.01

using the fourth trial as a criterion or they set the goal higher than any of the four scores, counting perhaps on improvement, and being fairly certain they were not coming back to fulfill the aspiration with a performance.

TABLE III

RANK DIFFERENCE COEFFICIENTS OF CORRELATION BETWEEN THE MEAN OF PERFORMANCES IN A TASK AND THE PREDICTION FOR "NEXT WEEK"

Task	N Trials	Rho	Level of Confidence
Basketball Throw	14	.9198	.01
Wall Pass	24	.7437	.01
Softball Throw	14	.4780	not significant
Vertical Pull	18	.9897	.01
Jump Reach	22	.9566	.01
Penny Cup	12	.8462	.01

A further study could attempt to explain some of these results by drawing lines relating individual personality and behavioral patterns in ego-involved tasks.

Using a 3x3 contingency table a positive, equal, and negative reading was made of the two variables in an attempt to find an association when modification of the aspirations was considered. The two variables were performance minus level of aspiration and the next level of aspiration minus the previous-aspiration. The chi-square test of independence was employed to determine the significance of the relationship that existed. The rejection of the null-hypothesis: modification in level of aspiration is not associated with the discrepancy between performance and level of aspiration in selected motor tasks, pointed to the significant relationship but did not indicate the degree of direction among the variables. Table IV shows the relationship of the combined scores from all six tasks which were significant at the 1% level of confidence.

The Yates Correction was used because of the small count in three cells of the contingency table. With this correction the computed answer was still significant at the 1% level of confidence.

In order to find direction the data were then retallied into a 2x2 contingency table. This procedure necessitated combining the "equal" values with the least "negative and positive" scores, in the rows and columns. Chi-square was then computed with a resulting value which made it possible to again reject the null-hypothesis at the 1% level of confidence. From the "ad-bc" value of the chi-square formula

it was observed that a positive direction could be read indicating that level of aspiration positively affected the performance in these motor tasks.

The data were then treated by using the Chi formula to transpose the value to a "t" reading as in a normal distribution. This proved also to be significant at the 1% level of confidence. From these findings and under the circumstances of this study it appears that the modification of the level of aspiration does directly and positively affect the performance. The values for this procedure were found by reading the score sheets of the subjects in the following manner: performance minus the level of aspiration gives a positive, negative, or equal answer and level of aspiration (i+1) minus level of aspiration (i) gives a positive, negative, or equal answer. Reading the scores in this manner shows the shifts or modification of the level of aspiration and the relationship of the level of aspiration to performance. These data are also summarized in Table IV.

In attempting to show the relationship between shifts in level of aspiration and differences in performance a contingency table was used. The scores of the subjects were read to show the increase, same as, or decrease in previous-level of aspiration to the next-level of aspiration and the previous-performance compared with the increase, same as, or decrease of the next-performance. Using the chi-square test of independence, the null-hypothesis: There is no relationship between the shift in the level of aspiration and the difference in the performances, was accepted for five tasks. The sixth task, basketball throw, had a

chi-square value of 51.806 which was significant at the 1% level of confidence. Therefore the hypothesis was rejected for this one task. This difference may be attributed to the familiarity of the subjects with this particular skill. From these data the possibility of the person setting a goal and not altering it regardless of past-performance is observed. While this information does not show a continuance, it does show the shifts in the variables in each of the six tasks. These results may be found in Table V.

TABLE IV

CHI-SQUARE TEST OF THE HYPOTHESIS: MODIFICATION IN LEVEL OF ASPIRATION IS NOT ASSOCIATED WITH THE DISCREPANCY BETWEEN PERFORMANCE AND LEVEL OF ASPIRATION IN SELECTED MOTOR TASKS

	N Scores	3x3	Yates Correction	2x2	Chi
Six Tasks	312	213.075	122.65	120.200 ad=14784 bc=195	10.9573
DF		4		1	
Level of Confidence		.01	.01	.01	.01

TABLE V

CHI-SQUARE TEST OF THE HYPOTHESIS: THERE IS NO RELATIONSHIP BETWEEN PREVIOUS LEVEL OF ASPIRATION AND ASPIRATION TO PREVIOUS PERFORMANCE AND PERFORMANCE

Task	N Trials	Chi-Square	DF	Level of Confidence
Basketball Throw	14	51.806	4	.01
Wall Pass	24	6.902	4	
Softball Throw	14	5.781	4	
Vertical Pull	18	6.102	4	
Jump Reach	22	1.139	4	
Penny Cup	12	4.3557		

Chi-square of 9.488 needed for significance.

CHAPTER V

SUMMARY AND CONCLUSIONS

Selected motor tasks were administered to twenty-six randomly chosen college women to determine if there is a relationship between level of aspiration and performance and within this possible relationship if there is a cause-effect direction of the two variables.

An analysis of the statistical data collected for this study would indicate that a definite relationship exists between level of aspiration and performance, past and future. Collectively the subjects' scores for separate tasks indicated a significant relationship between what an individual "tries" to achieve and his actual achievement.

The six tasks: basketball throw, wall pass, softball throw, vertical pull, jump reach, and penny cup provided the discrepancy scores for the analysis. A possible association in shift of the level of aspiration and its affect on performance in these tasks' scores were treated in a chi-square test of independence, proving to be significant at the 1% level of confidence. Direction of the variables in this same association of shifts and affects proved also to be significant and showed a positive direction of level of aspiration's affect on performance.

The significant correlations between the mean of the subject's four performances and the fifth future prediction appear reasonable with the observation that the prediction is many times reached by averaging the past performances. When a subject performs alone without group comparison, the tendency is to be more realistic. This fact might also

attribute to the significant correlation in this relationship.

The lack of correlation between previous level of aspiration and aspiration and previous performance to performance may be attributed to the combining of subjects' scores in the classification of tasks. The correlation which is between discrepancy values of two aspirations and the discrepancy values of two performances are read only up and down indicating no affect but only difference or relationship.

Is there a relationship between level of aspiration and performance? Does level of aspiration directly affect the performance? Is the level of aspiration interrelated to the past performance? What is the criteria for setting goals? What part do past performance of success and failure, ego-status, group-status, wishes, anxiety and the other ego-involvement qualities play in the announced level of aspiration? Is the announced level of aspiration the ultimate goal or an intermediate goal? The answers to these questions are not conclusively known. The "person" factor makes the exploration of aspiration levels intricately complex. However, within the limits of this study it can be concluded that a positive direction of level of aspiration's affect on performance does exist. What determines the setting of the level of aspiration and its consequent effect on the performance remains unknown.

The implication that could be drawn from this study and similar studies of level of aspiration and its many interrelated factors should have meaning to teachers interested in individualizing their instruction and in reaching their students.

Ego-involvement and its everchanging complexities will require the

prevailing attention of the research person as it appears to be the decisive segment in the behavior patterns of aspiration.

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BIBLIOGRAPHY

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APPENDIX

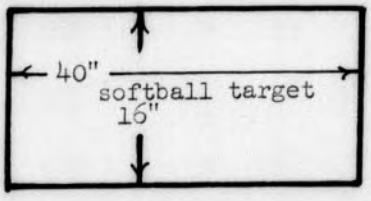
Description of the Tasks

Accuracy Tasks

basketball foul shooting - consisted of attempts to make baskets from the free throw line, any form was acceptable, three practice throws were taken before the task began. The task included ten throws at the basket with thirty seconds rest between sets of ten throws. A total of forty throws was taken by each subject.

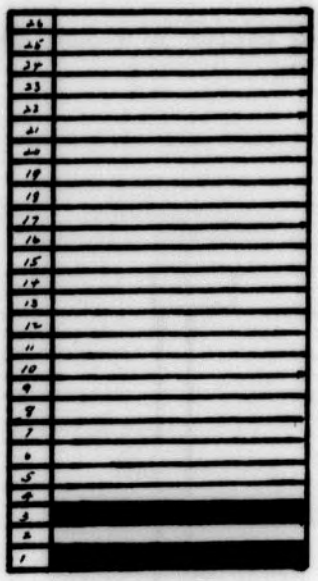
wall pass - consisted of a chest pass at a target with a two foot diameter, forty-eight inches from the floor. The subject stood behind a line eight feet from the wall and threw the ball at the target as many times as possible in fifteen seconds time. Three practice throws were taken before the task began. Fifteen seconds was timed for the subject to give her an estimate on which to base her prediction. The subject rested thirty seconds between sets of timed periods. The ball used was a basketball.

softball throw - consisted of an overhand throw at a target sixteen inches by forty inches in size and forty-eight inches from the center of the target to the floor. The subject stood at a line twenty-four feet from the wall and took ten throws at the target with a softball. Three practice throws were given before the task began. Thirty seconds rest was given between sets of ten throws. A total of forty throws was made by each subject.



Strength and Reaction Time Tasks

jump reach - consisted of attempts to mark on a target at the height of a jump. A target designed of many colored, numbered stripes was used. The subject stood by the target with a piece of chalk in her hand and as she jumped and reached marked on the target. Two practice jumps were given, one facing the target and one with her side to the target. Once the subject decided on her position of starting she maintained that same starting stance with all four jumps. The chalk in the subject's hand extended 1½" beyond the index finger of the hand being used.

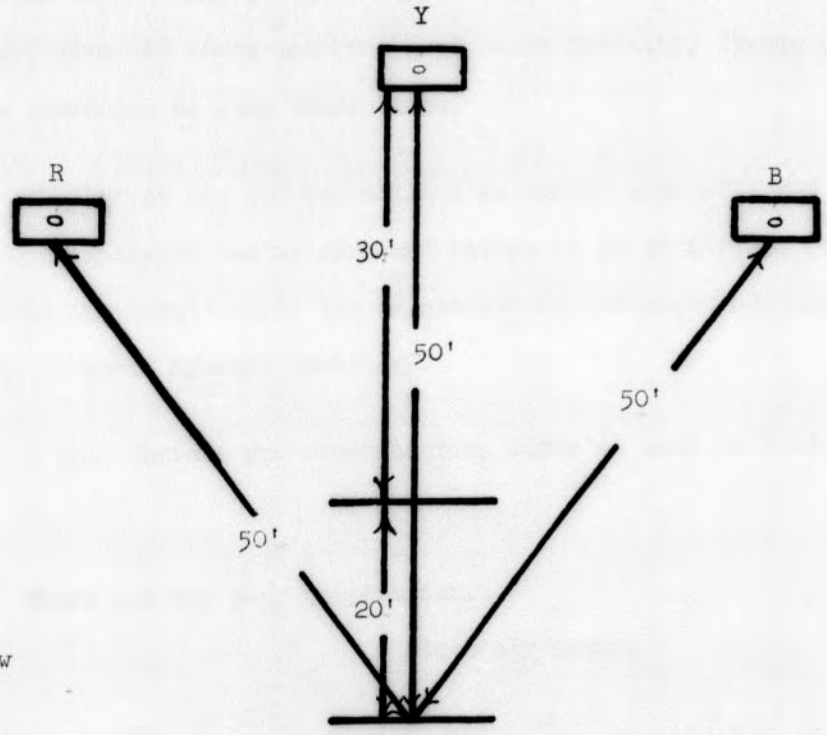


Jump Reach Target

vertical pull - consisted of attempts to pull down on a dynamometer with a push-pull attachment that was hanging from the ceiling. The instrument could be raised or lowered to correspond with the height of the subject. With her side to the dynamometer, the subject gripped the dynamometer and pulled down. She was not to use her body weight or lean into the pull for extra strength. Both feet were to remain on the floor. One practice pull was given for an estimate to the subject before the task began.

penny cup - consisted of a timed run and decision. Placed on the floor fifty feet from the starting line and in a fan shape from the line were three colored pieces of paper each with a teacup on it. The subject, with a penny in her hand, started at a signal and ran straight ahead. As she reached a line twenty feet from the beginning line, a color was called out by the administrator of the task and the subject then went to that color and deposited the penny in the cup and returned as fast as possible to the starting line. The clock was stopped as the subject crossed the starting line. The penny must stay in the cup or the subject had to replace it. One practice run was given to the subject before the task began.

In all six tasks the number of trials was four.



R red
Y yellow
B blue

Penny Cup Track

Box 264 WC
North Spencer Dormitory
Woman's College
Greensboro, North Carolina

February 1, 1960

Dear

As a graduate student in physical education, I am doing a research study for my masters thesis.

I need thirty-five volunteer subjects chosen at random from the student body. Your name was one of those selected.

If you agree to participate, you will be tested in three motor areas; none of them difficult, but probably fun. The testing would require approximately three one-hour periods in February. These periods would be scheduled at your convenience.

Whether or not you are willing to participate will you please fill out the enclosed postal card and return it to me through the mail? If you have any questions, I can be reached at the above address or in room #139 in North Spencer Dormitory.

I will contact you about testing dates as soon as I receive your reply.

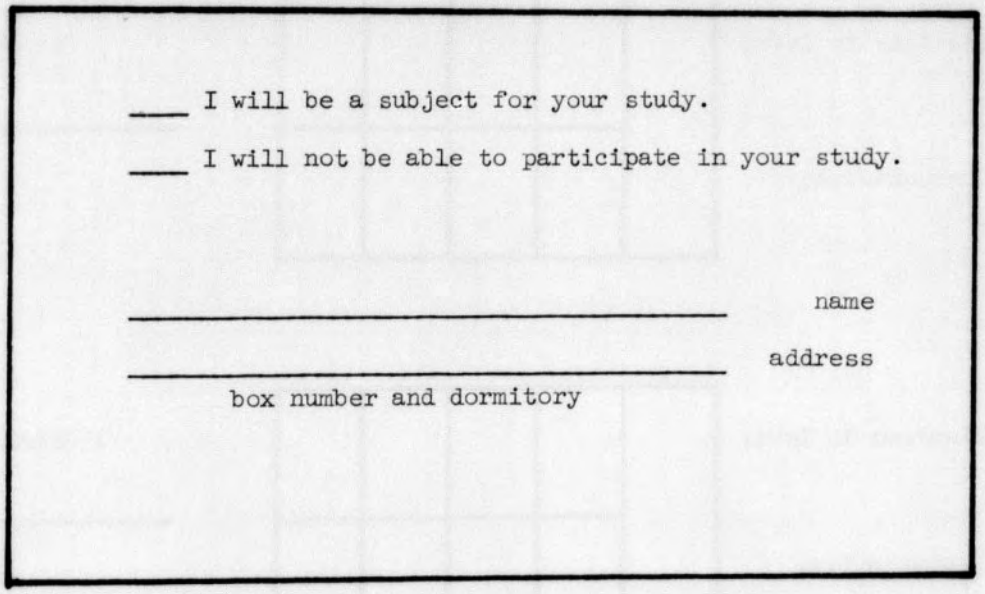
Thank you for your cooperation.

Sincerely yours,

Nan Price

Postal Card

This card was enclosed with the letter asking the subject to participate in the study. The card was then returned to the sender with either a negative or positive answer.



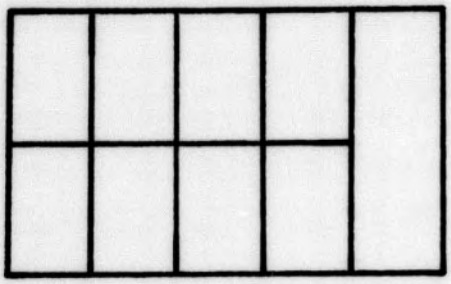
Sample Score Sheet

Name _____

Date _____ Time _____

ACCURACY

_____

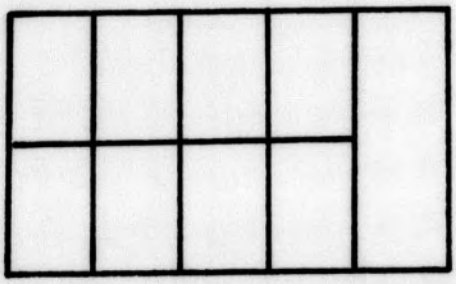


level of aspiration

performance

KINESTHETIC

_____

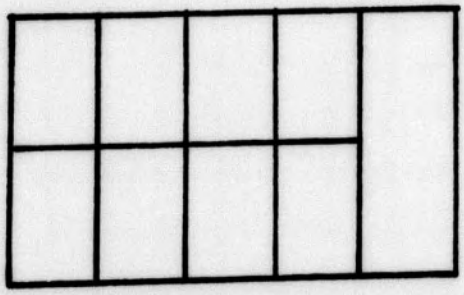


level of aspiration

performance

STRENGTH
REACTION TIME

_____



level of aspiration

performance

RAW DATA

Basketball Throw

N 14

Subject	Trials I		II		III		IV		V
	LA	P	LA	P	LA	P	LA	P	LA
2	2	1	2	3	4	5	5	3	5
3	5	0	6	7	8	6	7	7	8
4	1	0	1	2	2	1	1	5	4
5	5	3	5	5	6	3	6	5	5
9	5	2	5	0	4	6	6	6	6
10	5	2	3	6	5	7	6	7	6
11	1	1	1	0	1	1	1	2	1
15	3	2	3	3	5	1	5	4	4
16	4	2	2	1	3	3	4	3	4
17	3	0	3	1	3	3	3	2	2
18	1	4	3	1	3	2	3	1	3
19	4	9	6	7	7	5	6	3	7
20	1	2	3	1	2	5	5	4	5
26	4	5	6	7	8	6	8	4	6

RAW DATA

Wall Pass

N 24

Subject	Trials I		II		III		IV		V
	LA	P	LA	P	LA	P	LA	P	LA
1	7	9	10	11	11	11	11	11	11
2	8	11	12	12	12	11	12	12	12
3	10	14	14	13	14	14	14	12	14
4	12	11	11	11	12	12	12	12	12
5	20	25	25	26	30	27	28	28	28
6	8	10	10	11	11	12	12	13	12
7	8	11	10	10	10	11	10	11	12
8	15	12	15	13	15	14	16	14	15
10	8	11	10	11	11	11	11	11	11
11	13	11	12	10	11	11	12	12	12
12	7	9	8	10	10	10	10	8	8
13	8	10	10	11	15	12	15	12	15
14	6	8	8	10	10	11	10	10	10
16	8	11	11	12	11	11	11	11	11
17	11	11	11	12	12	11	12	12	12
18	8	9	10	11	11	11	12	11	11
19	10	8	10	11	12	12	12	12	12
20	8	8	9	10	11	11	12	11	12
21	10	13	15	14	15	13	13	13	13
22	13	11	12	13	14	14	15	15	14

RAW DATA

Wall Pass (continued)

N 24

Subject	Trials I		II		III		IV		V
	LA	P	LA	P	LA	P	LA	P	LA
23	17	11	12	11	12	10	11	11	12
24	10	11	12	12	13	12	13	12	13
25	12	10	12	11	12	10	12	12	13
26	5	11	9	11	11	12	12	12	11

RAW DATA

Softball Throw

N 14

Subject	Trials I		II		III		IV		V
	LA	P	LA	P	LA	P	LA	P	LA
1	7	7	8	5	7	7	8	8	7
6	4	4	4	1	3	4	4	4	4
7	5	4	5	6	6	8	8	7	8
8	9	9	10	8	9	8	9	6	9
9	6	7	8	7	8	7	8	9	9
12	5	8	6	8	6	9	8	9	8
13	5	6	8	10	10	8	10	7	8
14	5	6	6	5	6	6	7	6	6
15	6	7	8	6	8	9	10	9	9
21	5	7	6	8	7	6	7	7	7
22	5	5	6	7	7	6	7	9	8
23	5	4	5	3	4	6	5	7	6
24	6	7	8	5	7	4	7	6	8
25	4	5	6	4	6	7	7	6	8

RAW DATA

Vertical Pull

N 18

Subject	Trials								
	I		II		III		IV		V
	LA	P	LA	P	LA	P	LA	P	LA
3	60	60	63	68	66	60	64	68	65
4	68	69	69	70	70	70	70	66	69
7	45	46	47	42	45	50	50	50	50
11	63	66	67	64	65	68	68	68	67
13	85	88	85	90	90	90	90	90	90
14	65	56	60	65	60	62	65	62	60
15	60	61	58	64	60	63	62	69	62
16	54	54	56	52	53	52	53	53	54
17	75	78	80	78	80	78	78	78	78
18	60	63	63	64	65	66	67	69	70
19	58	56	54	68	64	68	66	68	66
20	80	84	84	86	88	86	87	89	89
21	68	64	65	80	75	76	75	75	75
22	72	72	73	76	75	65	73	74	74
23	82	70	80	72	75	78	76	76	76
24	50	50	50	46	50	50	52	54	56
25	60	70	75	66	70	61	70	68	70
26	85	82	80	80	83	82	84	80	82

RAW DATA

Jump reach

N 22

Subject	Trials I		II		III		IV		V
	LA	P	LA	P	LA	P	LA	P	LA
1	25	24	25	25	25	25	26	25	25
2	27	29	29	28	29	29	29	29	29
5	28	29	29	29	29	29	29	29	29
6	21	20	20	22	21	22	21	22	21
8	28	28	29	28	29	28	29	29	30
9	24	24	24	24	25	24	25	24	24
10	19	19	19	19	19	19	19	20	19
12	17	16	16	16	16	16	16	16	16
13	23	23	23	23	23	22	23	23	23
14	20	21	21	21	21	21	21	21	21
15	18	18	18	18	19	19	19	19	19
16	20	20	20	22	22	20	21	20	20
17	23	22	23	22	23	23	23	22	23
18	23	23	23	23	24	24	24	24	24
19	26	26	27	27	28	26	27	26	27
20	23	23	24	24	24	25	26	25	25
21	20	20	21	20	20	21	21	21	21
22	27	27	27	27	28	27	28	27	27
23	25	24	24	24	25	25	25	25	27

RAW DATA

Jump reach (continued)

N 22

Subject	Trials								
	I		II		III		IV		V
	LA	P	LA	P	LA	P	LA	P	LA
24	21	22	23	22	23	22	23	22	22
25	19	19	21	20	21	19	21	20	21
26	25	26	26	26	26	26	26	26	25

RAW DATA

Penny Cup

N 12

Subject	Trials I		II		III		IV		V
	LA	P	LA	P	LA	P	LA	P	LA
1	7.5	7	7	7	7	7	7	7.5	7
2	8	7.5	7	7.5	7	7.5	7	7.5	7.5
3	7	7	7	6.5	6.5	10.5	7	6.5	6.5
4	6	7.5	7.5	7.5	7.5	7.5	8	7.5	7.5
5	5	6	5	5.5	5	7	6	6	6
6	7	7.5	7.5	7.5	7.5	7.5	7.5	7	7
7	9	8.5	8	7.5	8	8	8	8	8
8	6	6	5	6	5	6	5	6	5
9	7	7.5	7	8	7	7.5	7	6.5	7
10	7	7	7	7.5	7	7	7	7.5	7
11	7	6.5	6	7.5	6	9.5	6	7	7.5
12	10	8	10	7.5	9	8	8	8	9